

Research Article

Dynamic Evaluation of Rural Tourism Based on Food Consumption and Agricultural Products Supply Chain

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Abstract: In this study, we analyzed influential factors in rural travelling decision-making by using regression model. From the result, we can get that: first, food safety is the most important factor to food consumption in rural tourism, the correlation between food safety and food consumption is 0.674, which means food safety has significant positive influence to food consumption. Second, buying patterns is the second important factor to food consumption in rural tourism, the correlation relationship between food safety and food consumption is 0.642 and the constant is -0.673, which means that when the price advantage is not obvious, consumers don't engage in consumption of agricultural products. Third, local characteristics and personal characteristics are also important factor to food consumption in rural tourism, the correlation between local characteristics and food consumption is 0.549 and the correlation between personal characteristics and food consumption is 0.361, it means that the country food should be distinctive, but its consumption also decided by consumers features.

Keywords: Customer satisfaction, food consumption, food safety, rural travelling

INTRODUCTION

The characteristics of tourist food as part of rural tourism products play an important role in the development of rural tourism. It is not only the foundation and guarantee of tourism destination to provide quality services to tourists, but also to meet the tourists in the rural tourism in the process of food demand, rich experience of tourists, has an important significance to enhance tourism destination visibility and reputation (Chen and Zhou, 2013; Li and Ning, 2012). Therefore, the food industry is of great potential for development of tourism industry. Tourist food quality, to meet consumer safety, nutrition, high-grade and other needs, is the result of resources, environment, ecology etc. the rational use of human survival condition. Promoting tourism food consumption will protect environment, economic development and ensuring people's health closely together, has obvious economic, social and ecological benefits, the national economic and social development played a positive role in promoting (Ning and Li, 2013). Tourism food is an important part of tourism. In the domestic tourist income, scenic spot ticket income accounted for only 2.37% of the tourism income, but due to its lead diet, accommodation, transportation, shopping, entertainment and other income accounted for the first, reached 97.63%, while the consumption of food and in which occupies a great proportion (Zhang and Chen,

2013; Zhou, 2013a). From our present situation, in the tourism industry chain, production and sales of tourist food are not very ideal, sales income is relatively low, resulting in adverse effects of a balanced development of the whole industry chain. According to statistics, foreign developed countries and regions, tourism food revenue in the total tourism income ratio up to 41-45% (Claudia, 2013) and some domestic developed regions such as Beijing, Shanghai, Hangzhou, this proportion reached accounted for 25-35%. In contrast, scenic spots in Anhui province has a large gap, also has the very big promotion space. As existing food and tourism scenic spots in Anhui Province, first promote the rapid development of rural tourism industry in Anhui Province and then promote the tourism food industry standardization management. Also, we should provide security for the tourism food, create a good environment to together, increase the income of tourism. This is the important meaning to improve the rural tourism in Anhui province is famous degree and reputation and can provide important support for building international tourism and cultural city.

For the tourism food effect, Erik and Avieli (2004) pointed out that tourism food as a tourist attraction by the local characteristics of the food the challenges of complexity. Kevin and Metin (2000) pointed out that the Oriental and Western Europeans in the catering service satisfaction with the people of Romania are very different; the influence of visitors dining experience in

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Romania the most important factor is the dining product quality, variety, value, service mode and dining environment. Shuai and Ning (2004) pointed out that in the travel schedule for tourists in pursuit of food consumption thanks to diet for the purpose of tourism consumption experience and to meet the survival needs of consumer behavior. Stefan and Brian (2011) pointed out that for the purpose of food tourism is to taste the food and introduces in detail how to gourmet tour of operation, analyzes the factors, which affect the operation process and the development of food tourism in the future put forward opinions and suggestions. Abraham and Natan (2000) pointed out that the specialty food products can be used as a tourism product to promote the development of destination tourism industry.

The development of tourism in China started late; tourism commodity is lagging behind the development of tourism (Li, 2014). The current domestic research on the development of tourism food is still in its infancy, but the development of tourism commodities, especially food brought about by the economic benefits, has attracted more attention from the government and the tourism industry and attention (Qing and Li, 2014; Zhou, 2013b). According to current situation of the development of domestic tourism food and the problems existed in the development of the domestic scholar initial research development status quo of domestic tourism food from the macroscopic Angle (Ning and Li, 2013) and then study the tourism commodity development of provinces and cities from the microscopic view, but also from the aspects of food safety, food health guide a path for the development of tourist food. Liu (2013) points out the development direction of international food industry widened the field of vision for us to do a good job of tourism food safety. Zhou and Chen (2013) analyzed the food safety law of economics perspective, social economic value, points out that the food safety issues, including tourist food, is not just about public health and quality of life, is about the reputation of a city, also about the smooth transformation economic growth way. Wei (2014) draw lessons from foreign food safety regulatory experience, from the point of view of an administrative government how to ensure food safety, to provide a basis for the tourism market of food safety. Liu (2014) analyzed the current issue in Henan tourism food market and the main problems and puts forward some countermeasures to promote the development of Henan tourism food quickly. Zhang (2014) pointed out the present situation and countermeasures of China's tourism food safety management and analyze the current situation of tourism in our country food safety: overall improvement but it is still not optimistic, summed up the tourism food safety management of the sudden, universality, complexity, three features, summarizes the travel time and space law of food safety incidents.

On this basis, this study through consulting a large number of literature, summed up tourism food and basic theory, then analyze the condition of rural tourism

food resources and according to the investigation carried out by analysis of present situation, problems and causes of tourism food and combined with the actual situation of Suzhou city tourism food resources, strategic thinking of food in rural tourism development countermeasures, in order to put forward Suzhou city.

QUESTIONNAIRE AND MODEL DESIGE

Questionnaire survey: Questionnaire survey is a method which has been widely applied in the discipline of sociology, suitable to understand people's opinions, attitudes and behavior, through in-depth field investigation and a large number of first-hand information (Deborah and Eric, 2012; Zhang and Chen, 2012). In this study, we collect data mainly by using the tourist attractions and food facilities in Suzhou city from June to September, 2014. Tourist shopping place to grant, the guide of tour, recycling of 190 valid questionnaires, mastered the truest, the most abundant statistic data. Also, we recycle questionnaire and make data analysis effectively. At the same time, we take the depth interview method. Depth interview is through the verbal communication with respondents and the collected according to the respondents answer without personal bias, objective, authentic materials, is a small number of samples and view and accurately express the sample represents a way of overall. In order to understand the questionnaire can not thoroughly the problems and reasons. In the process of research, the authors adopt a flexible way of interview for food facilities management of tourism, tourist food production or processing enterprise staff, scenic tourists, government department staff, well-known cultural face-to-face conversations on subjects such as experts and scholars home and comprehensive listen to the opinions and Suggestions, in order to understand the questionnaire survey can't in-depth problems and the reasons.

In order to improve the questionnaire as simple and effective, we will release a part of the pretest questionnaire, through the screening of the results to determine the final items. Finally, we will release a lot of formal questionnaire and collect data, then make reliability test, validity test, correlation analysis and regression analysis by using SPSS software. In this study we construct four variables as: Local characteristics, food safety, buying patterns and personal characteristics. All variables were shown in Table 1.

Model design: For the sake of convenience, assume that the standardization of treatment received data matrix is denoted by X . Its correlation matrix R and the covariance matrix S is exactly the same. Then the correlation matrix can be expressed as:

Table 1: Variables and symbolic hypothesis

Variables	Secondary variables	Variable description	Symbolic hypothesis
Local characteristics α_1	Taste characteristics X1	Consumers like the special taste of the country food	++
	Cultural features X2	Consumers like the cultural characteristics of the country food	+ or -
	Cultural features X3	Consumers like the local characteristics of the country food	+
Food safety α_2	Production process X4	Whether the production process clean and health	++
	Dining environment X5	Dining environment is clean and sanitary	+
	Quality assurance X6	Rural food quality is guaranteed	++
Buying patterns α_3	Convenient X7	Whether it's a good buy, will it be convenient for carrying	+
	Price X8	The price is reasonable	++
	Fair trade X9	Whether business follow the principle of fair trade	+
Personal characteristics α_4	Income X10	The age of the buyer	++
	Age X11	The gender of the buyer	+ or -
	Gender X12	The level of education of the buyer	+

“++” means the strong positive influence; “+” means positive influence; “-” means negative influence

$$R = X \cdot X' \tag{1}$$

R characteristic equation of a matrix is $|R-\lambda|$, assuming that their p eigenvalues satisfy the following relations: $\lambda_1 > \lambda_2 > \dots > \lambda_p \geq 0$, the eigenvectors corresponding is U_1, U_2, \dots, U_p and each feature vector as a column vector of matrix:

$$U = [U_1, U_2, \dots, U_p] = \begin{bmatrix} U_{11} & U_{12} & \dots & U_{1n} \\ U_{21} & U_{22} & \dots & U_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ U_{p1} & U_{p2} & \dots & U_{pn} \end{bmatrix} \tag{2}$$

Let $F = U'X$, then the above formula becomes:

$$FF' = \Lambda = \begin{bmatrix} \lambda_{11} & & & 0 \\ & \lambda_{22} & & \\ & & \ddots & \\ 0 & & & \lambda_{pn} \end{bmatrix} \tag{3}$$

After the simplification, we obtain:

$$F = [U'x_1, U'x_2, \dots, U'x_n] \tag{4}$$

The $Fa = U'Xa$ ($\alpha = 1, 2, \dots, n$) and every Fa can be considered as sample observation value of main factor, which can be written as:

$$F_a = [f_{1a}, f_{2a}, \dots, f_{pa}] \tag{5}$$

In the factor analysis, we usually only use the m ($m < p$) as main factor, namely according to variables that are associated with the selected first factor f_1 . After selected M, we divide U matrix into two parts. Because $Fa = U'Xa$, then we can get $Xa = Ufa$:

$$X_a = [U_1, \dots, U_m, U_{m+1}, \dots, U_p] \begin{bmatrix} f_{1a} \\ \vdots \\ f_{pa} \end{bmatrix} \tag{6}$$

One of the coefficient matrix of main factors is $U(1)$, which is called the loading matrix of factors. Due to the characteristics of vector U_i , it is typically

representation by unit vector, so it needs to be normalized, i.e.:

$$a_{ij} = U_{ij} \sqrt{\lambda_i} \tag{7}$$

Therefore, the factor loading matrix can be shown as:

$$A = (a_{ij}) = \begin{bmatrix} U_{11} \sqrt{\lambda_1} & U_{12} \sqrt{\lambda_2} & \dots & U_{1m} \sqrt{\lambda_m} \\ U_{21} \sqrt{\lambda_1} & U_{22} \sqrt{\lambda_2} & \dots & U_{2m} \sqrt{\lambda_m} \\ \vdots & \vdots & \ddots & \vdots \\ U_{p1} \sqrt{\lambda_1} & U_{p2} \sqrt{\lambda_2} & \dots & U_{pm} \sqrt{\lambda_m} \end{bmatrix} \tag{8}$$

RESULTS AND DISCUSSION

By analyzing the existing literature, draw lessons from the existent research and analysis in the study of inadequacy, design the research framework, research hypothesis and research method is put forward. Using the statistical software SPSS to analyze recycling questionnaire data, specific include: through descriptive analysis and ordinal regression analysis to explore the influencing factors of food consumption; Through the analysis of the reliability and validity to ensure the quality of scale; Through correlation analysis, multiple regression analysis and path analysis to explore the influencing factors of rural food consumption.

Data sources and sample: This study taking 2014 (6-9 months) as the survey time period, whether urban residents participated in the study of rural tourism. The author choose Suzhou city of Anhui province as the main sampling area to urban residents, as the investigation object, a population is more concentrated large supermarkets, shopping malls and mainly rural tourism attractions for the survey locations, by field questionnaire survey, 600 questionnaires were distributed, recovery of 577 copies, out no answer or reply invalid questionnaire 38 is not correct, effective questionnaire 539, effective questionnaire rate was 89.8%.

Statistical analysis of urban residents' basic characteristic: From the survey of the residents in the

Table 2: Statistical analysis of collected data

Personal characteristics	Min.	Max.	Average	S.D.
Income	2000	15000	4067.52	5618.253
Age	14	68	37.21	56.502
Gender	0	1	0.44	1.426

In the gender calculation, male = 1, female = 0; Min.: Minimum; Max.: Maximum; S.D.: Standard deviation

Table 3: Reliability analysis

Factor	Evaluation index	Corrected item-total correlation	Cronbach's Alpha if item deleted	Cronbach 's Alpha
α1	X1	0.7531	0.8428	0.9014
	X2	0.8486	0.8567	
	X3	0.7614	0.8206	
α2	X4	0.6853	0.7018	0.8627
	X5	0.7218	0.7846	
	X6	0.6932	0.7128	
α3	X7	0.7644	0.8124	0.8315
	X8	0.7856	0.8215	
	X9	0.7315	0.7864	
α4	X10	0.7845	0.8552	0.8139
	X11	0.7923	0.8204	
	X12	0.7302	0.8032	

Table 4: Second-order confirmatory factor analysis

Relationship	Un-standardized estimates	S.E.	t	Standardized estimates
α1→X1	1.503	0.112	9.761	0.87
α1→X2	1.461	0.095	15.261	0.89
α1→X3	1.125	0.087	12.596	0.82
α1→X4	1.263	0.106	11.215	0.76
α2→X5	1.088	0.097	10.157	0.75
α2→X6	1.056	0.105	9.674	0.80
α2→X7	1.012	0.113	9.562	0.78
α3→X8	0.956	0.102	9.145	0.76
α3→X9	1.307	0.115	10.281	0.76
α3→X10	1.521	0.156	9.762	0.82
α4→X11	1.258	0.114	11.234	0.88
α4→X12	1.204	0.115	9.836	0.79

whole, the average sense, the participation of urban residents in the rural tourism age trend was younger (average age 37.21 years), with higher disposable monthly income (4067.52 RMB), disposable gender more abundant (0.44) (Table 2).

Reliability analysis: In order to guarantee the questionnaire has high reliability and validity, before the formation of a formal questionnaire, he shall make test for the questionnaire and the test results are reliability and validity analysis, according to the results of screening questionnaire item, adjust the structure of the questionnaire, so as to improve the reliability and validity of the questionnaire. Cronbach alpha reliability coefficient is by far the most commonly used reliability coefficient, total table of reliability coefficient over 0.8, the best acceptable between 0.7 to 0.8; Subscales of reliability coefficient over 0.7, the best 0.6 0.7 was acceptable. Cronbach's alpha coefficient if below 0.6 will consider making questionnaire. The result of Validity analysis was shown in Table 3. From the Table 3; we can know that the reliability of the data can be acceptable.

Second-order confirmatory factor analysis: Confirmatory factor analysis is a statistical analysis of

the social survey data. It tests a factor and the relationship between a corresponding measure is in line with the theory design by researchers The correlation degree is high between these factors and then we make second-order confirmatory factor analysis by using SPSS software, the result was shown in Table 4.

Convergent validity inspection: Construct validity is divided into two kinds: convergent validity and the difference between validity. Convergent validity is refers to the concept of project, in the same high correlation between each other. Validity refers to the difference between different concepts in the project, low correlation with each other. Confirmatory factor analysis can test the main measurement model of latent variable by using convergent validity or discriminate validity. Three scale for the three measurement model for convergent validity test, the standardization of the first step to investigate each latent variable factor loading coefficient, load value should be >0.5, this means that the multi-item with common variance between latent variables is greater than the multi-item and error variance between common variance, are significant; The second step is to investigate the AVE values. AVE values should be >0.5, which means that

Table 5: Result of Convergent validity test

Latent variable	Factors	R2	Composite reliability	Average variance extracted
Local characteristics α_1	X1	0.87	0.823	0.634
	X2	0.75		
	X3	0.65		
Food safety α_2	X4	0.74	0.848	0.726
	X5	0.63		
	X6	0.70		
Buying patterns α_3	X7	0.86	0.879	0.683
	X8	0.51		
	X9	0.72		
Personal characteristics α_4	X10	0.67	0.764	0.622
	X11	0.79		
	X12	0.65		

Table 6: The results of regression model

Model		Non-Standardized Coef.		Std. Coef.		
		B	S.E.	Beta	t	Sig.
α_1	Constant	2.104	0.423		5.206	0
	Local characteristics	0.549	0.142	0.518	7.425	0
α_2	Constant	0.835	0.947		2.829	0.022
	Food safety	0.674	1.321	-0.005	1.426	0.314
α_3	Constant	1.023	0.672		1.508	0.152
	Buying patterns	0.642	0.136	0.473	6.142	0
α_4	Constant	-0.673	0.713		-0.820	0.208
	Personal characteristics	0.361	0.148	0.251	2.325	0.031

S.E.: Standard error

each factor can be extracted by explain more than 50% of the variance. Then we convergent validity test (Table 5).

Regression analysis: Then we make regression analysis of all variables. From the result, we can get that: First, food safety is the most important factor to rural food consumption, the correlation between food safety and food consumption is 0.674, which means food safety has significant positive influence to food consumption. Second, buying patterns is the second important factor to rural food consumption, the correlation relationship between food safety and food consumption is 0.642 and the constant is -0.673, which means that when the price advantage is not obvious, consumers don't engage in consumption of agricultural products. Third, local characteristics and personal characteristics are also important factor to rural food consumption, the correlation between local characteristics and food consumption is 0.549 and the correlation between personal characteristics and food consumption is 0.361, it means that the country food should be distinctive, but its consumption also decided by consumers features (Table 6).

CONCLUSION

Food consumption plays a very important role in the development of rural tourism, it is not only a kind of service, moreover and it will provide tourist experience and raise awareness and the reputation in tourism destination. The development of tourism food is broad, stronger policy, the need for government support. On this basis, we put forward the related proposal.

First, improve the importance to the development of tourist food, to increase support for tourism food. Suzhou tourism food want to get fast, sustained and healthy development of this with the support of the government is inseparable. Government should actively develop on food industry development planning, the relevant administrative departments in Suzhou tourism in the process of food production and operation enterprises management to deeply dig the Suzhou local flavor of food culture, to incorporate these profound diet culture into tourism in food. In the process of tourism catering management strictly develop and implement measures for the management of food hygiene, food quality and safety and hygiene supervision and tourism.

Second, Pay more attention to research and development in tourism food. Tourism food want to walk the road of sustainable development, the research work is the Key. In countrywide other well-known tourist city such as Beijing, Shandong in the development of tourist commodities is a government set up a special research and development center. Suzhou could follow suit, even if not specifically set up a tourism food R and D center can also be combined with tourism, food production and operation of enterprises and local scientific research institutes jointly establishing tourism food R and D institutions, go specialization road travel food development and design. At the same time can establish market mechanism necessary, play folk cuisine features inheritance to the role, so that the traditional folk food can be inherited and carried forward.

Third, strengthen the macro management, provide policy support. Strengthening the government's macro

management of the tourism of the food industry, tourism enterprises of food production act of one's own free will change the situation, the formation of multi departments of tourism, food inspection and quarantine, sanitary supervision, industry and commerce, taxation joint, cooperate with each other in the adjustment of tourism enterprises engaged in food production or marketing investment policy, price policy, tax policy; good health supervision and inspection work to ensure food safety and quality; to guide the tourism food production and management, the maintenance of market order; to give tax, financial support to expand the scale of enterprises.

Fourth, expand the propaganda and improve the visibility of Suzhou tourism food. The government could use its public resource advantage, the tourist food as a gift at the reception, can also be famous restaurant features and parts of Suzhou as the reception of formulated products; exquisite tourist propaganda, to join the tourism food part of the play, expand the scope, promote Suzhou tourism food propaganda for tour guides; the training work, increase the training content of Suzhou tourism food, increase the Suzhou tourism food recommendation and propaganda. The government through the implementation of the above activities and organization can effectively improve the tourism of Suzhou food is famous degree, promote the further development of the tourism in food industry.

Finally, construct sales platform for tourism food. Set up the sales platform can be divided into two parts to consider. One is the travel characteristic catering, catering street can transform the existing part of the city, the two is capable of carrying away the tourist food, the food and tourism is an important part of tourism commodities. Each county area in our city are tourist attractions and tourism commodity, but the attractions were scattered, has not yet formed a tourism commodity market sales network. At present, the lack of scale, the grade of the scenic area tourist commodity store downtown, the lack of specialized shopping district, is not conducive to tourism commodity sales. Therefore, it is very important to build a tourism shopping platform for visitors. Therefore, our city should set up some tourism shopping street in the urban areas, or set up a number of travel goods store and increase sales in supermarkets, Hotel and other places, let Suzhou tourism commodities have broader marketing platform, but also can promote the tourism commodity sales. The implementation of these measures will to Suzhou tourism industry to further expand the scale of food, further and stronger.

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